FIG. 1

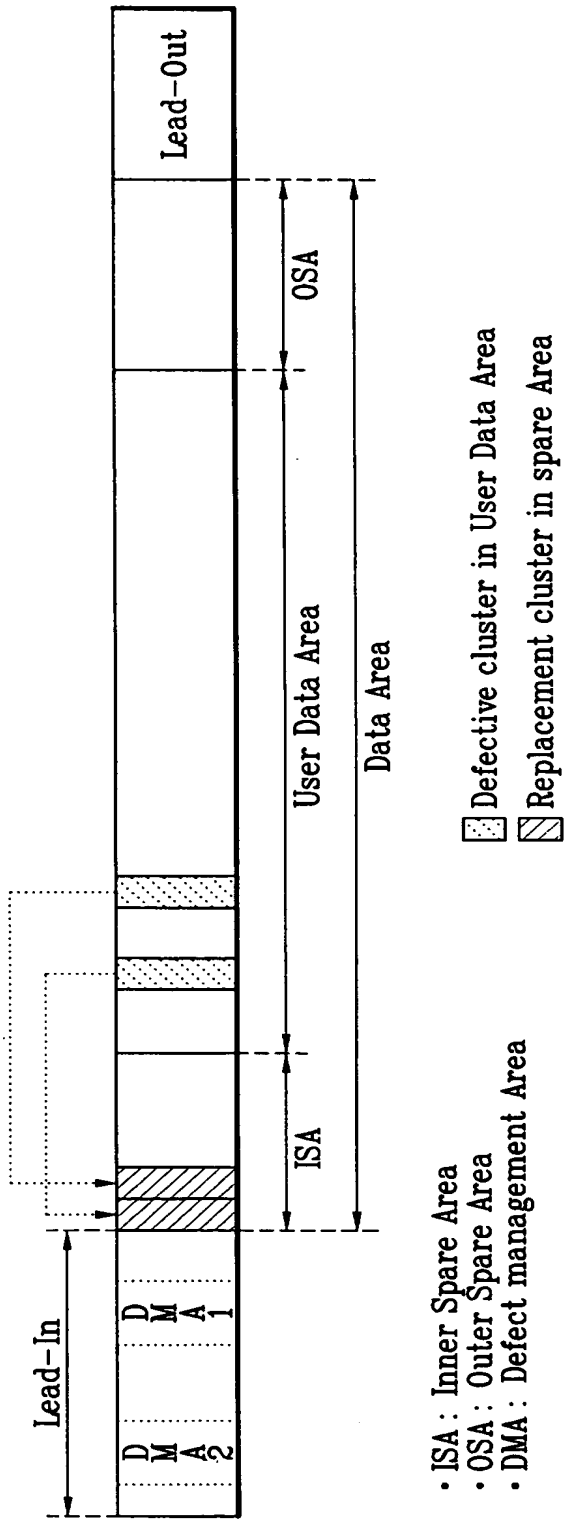

Lead-In
DMA2
DMA1
Lead-Out
ISA
OSA
User Data Area
Data Area
Defective cluster in User Data Area
Replacement cluster in spare Area
• ISA : Inner Spare Area
• OSA : Outer Spare Area
• DMA : Defect management Area

FIG. 2

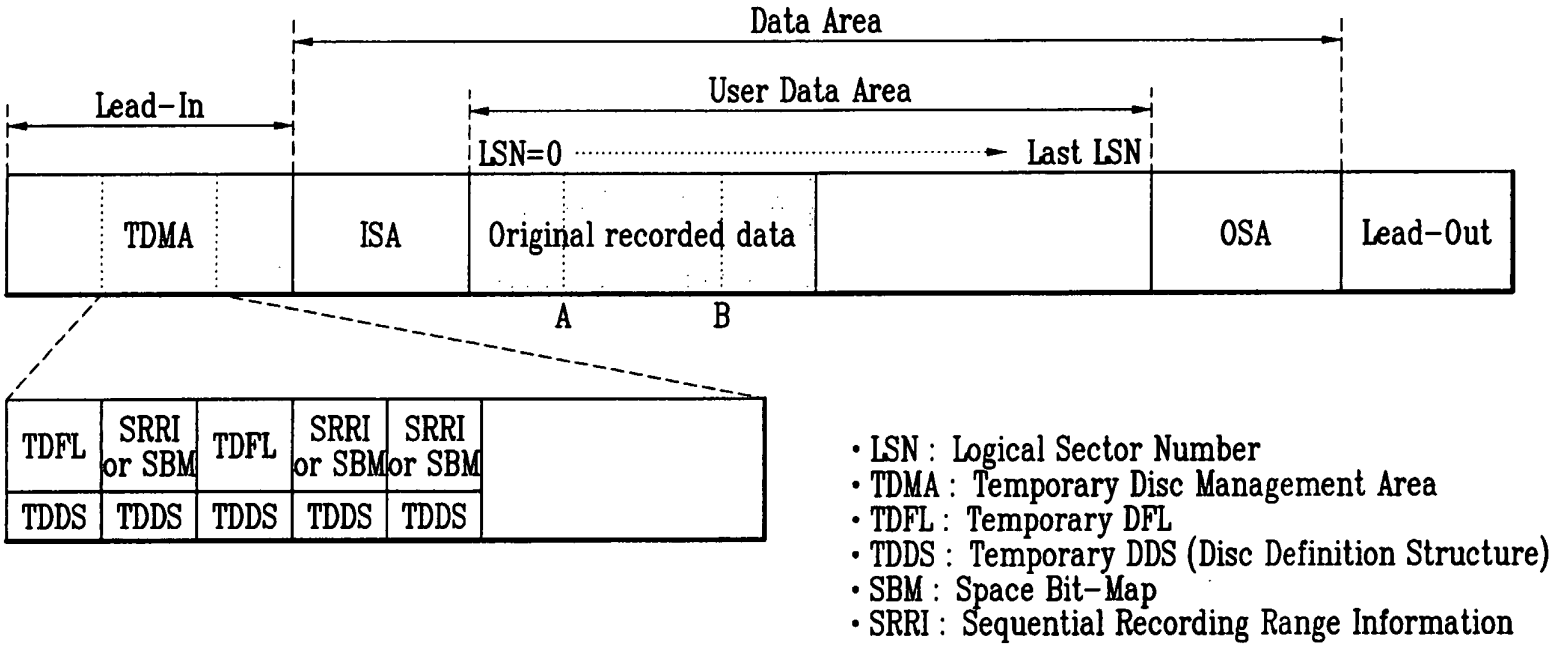

Data Area
Lead-In
User Data Area
LSN=0
Last LSN
TDMA
ISA
Original recorded data
OSA
Lead-Out
A
B
TDFL
SRRI or SBM
TDFL
SRRI or SBM
SRRI or SBM
TDDS
TDDS
TDDS
TDDS
TDDS
• LSN : Logical Sector Number
• TDMA : Temporary Disc Management Area
• TDFL : Temporary DFL
• TDDS : Temporary DDS (Disc Definition Structure)
• SBM : Space Bit-Map
• SRRI : Sequential Recording Range Information

FIG. 3A

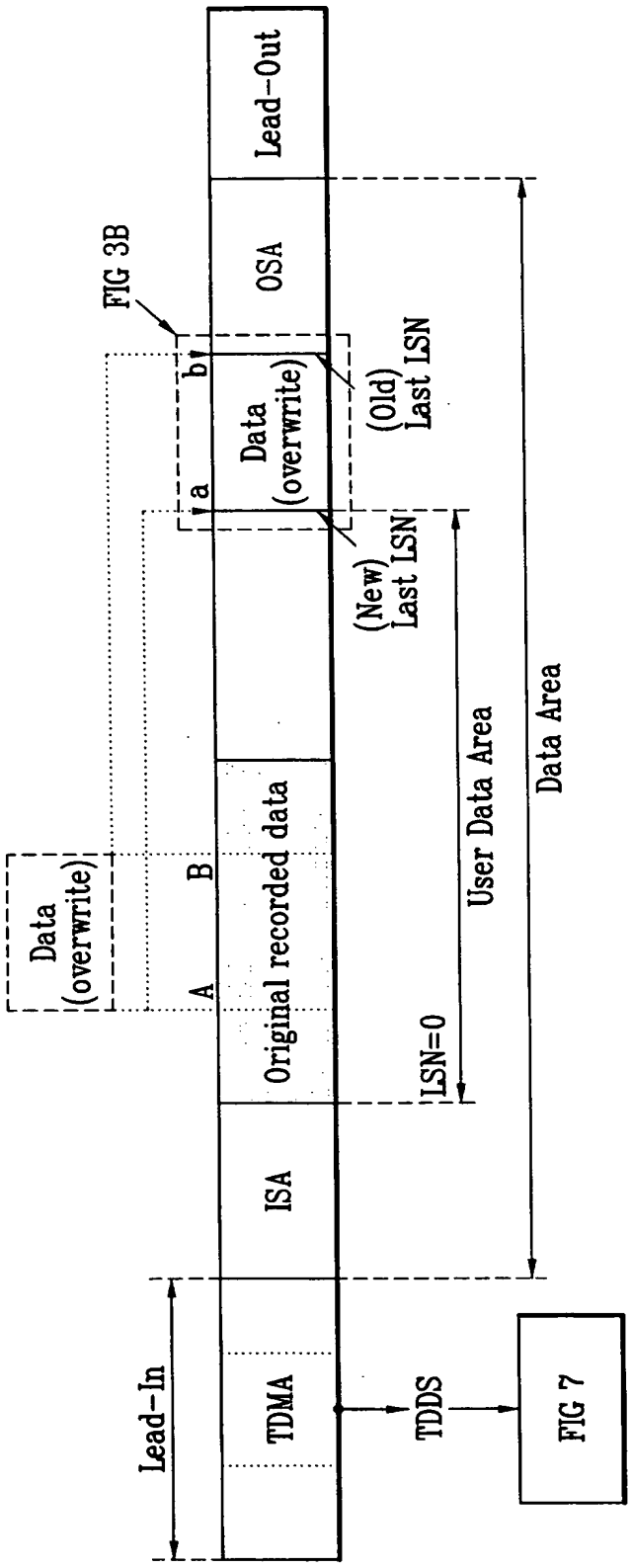

Lead-In
TDMA
ISA
Original recorded data
OSA
Lead-Out
Data (overwrite)
A
B
a
b
Data (overwrite)
(Old) Last LSN
(New) Last LSN
LSN=0
User Data Area
Data Area
FIG 3B
TDDS
FIG 7

FIG. 3B

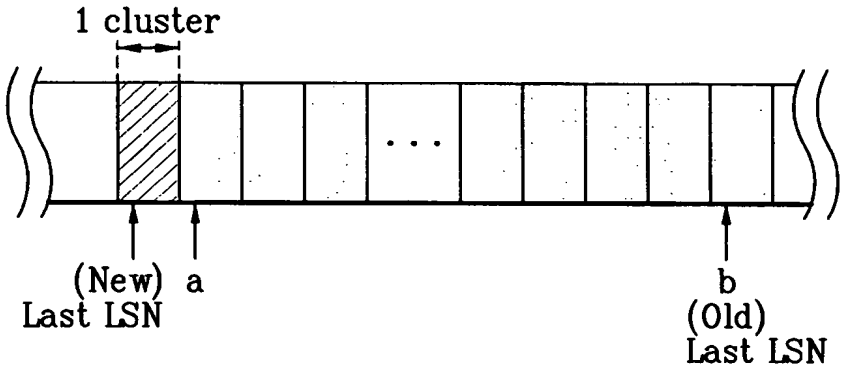


FIG. 4

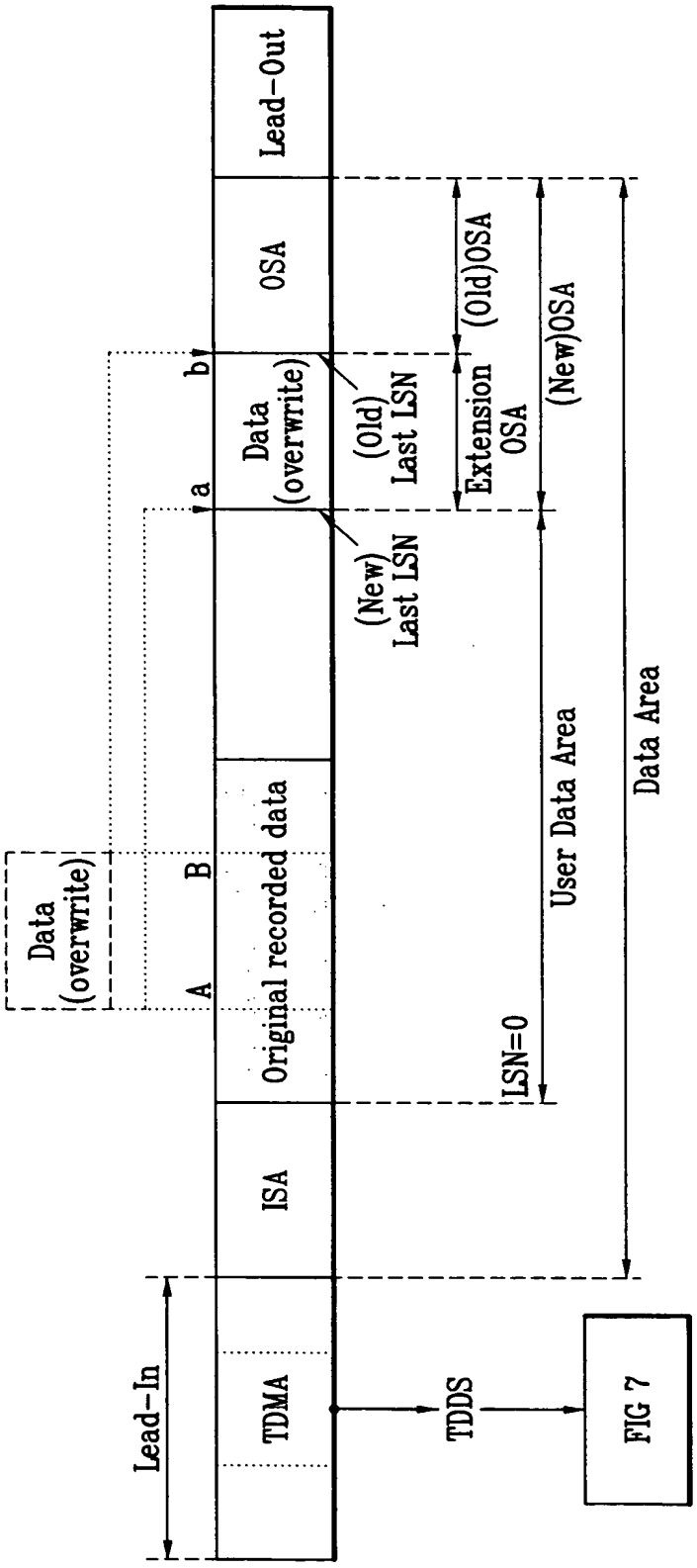

Lead-In
TDMA
ISA
Original recorded data
OSA
Lead-Out
Data (overwrite)
A
B
a
b
Data (overwrite)
(New) Last LSN
(Old) Last LSN
Extension OSA
(Old)OSA
(New)OSA
LSN=0
User Data Area
Data Area
TDDS
FIG 7

FIG. 5

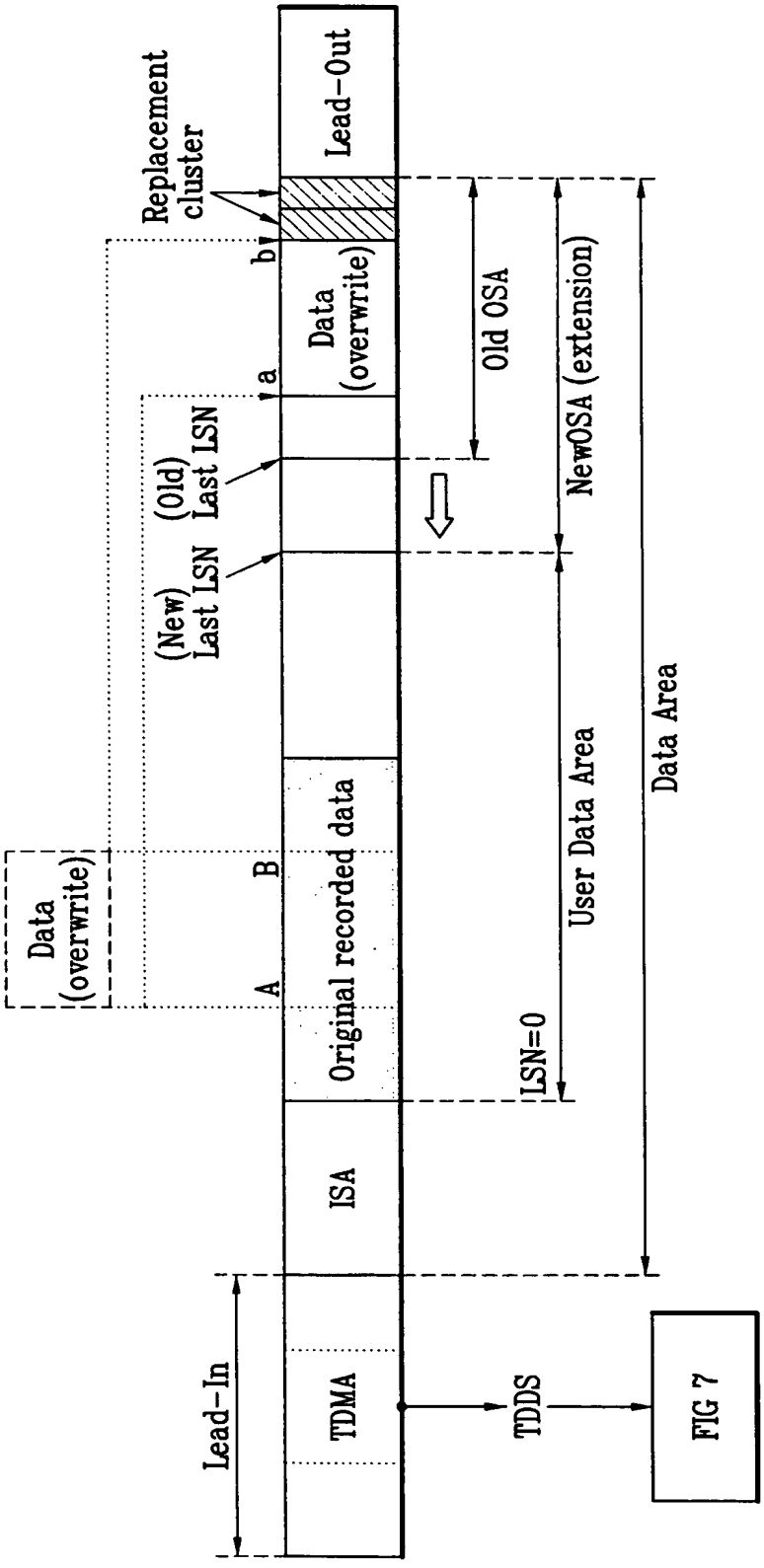

Lead-In
TDMA
ISA
Original recorded data
Data (overwrite)
A
B
(New) Last LSN
(Old) Last LSN
a
b
Replacement cluster
Data (overwrite)
Lead-Out
LSN=0
User Data Area
Old OSA
NewOSA (extension)
Data Area
TDDS
FIG 7

FIG. 6

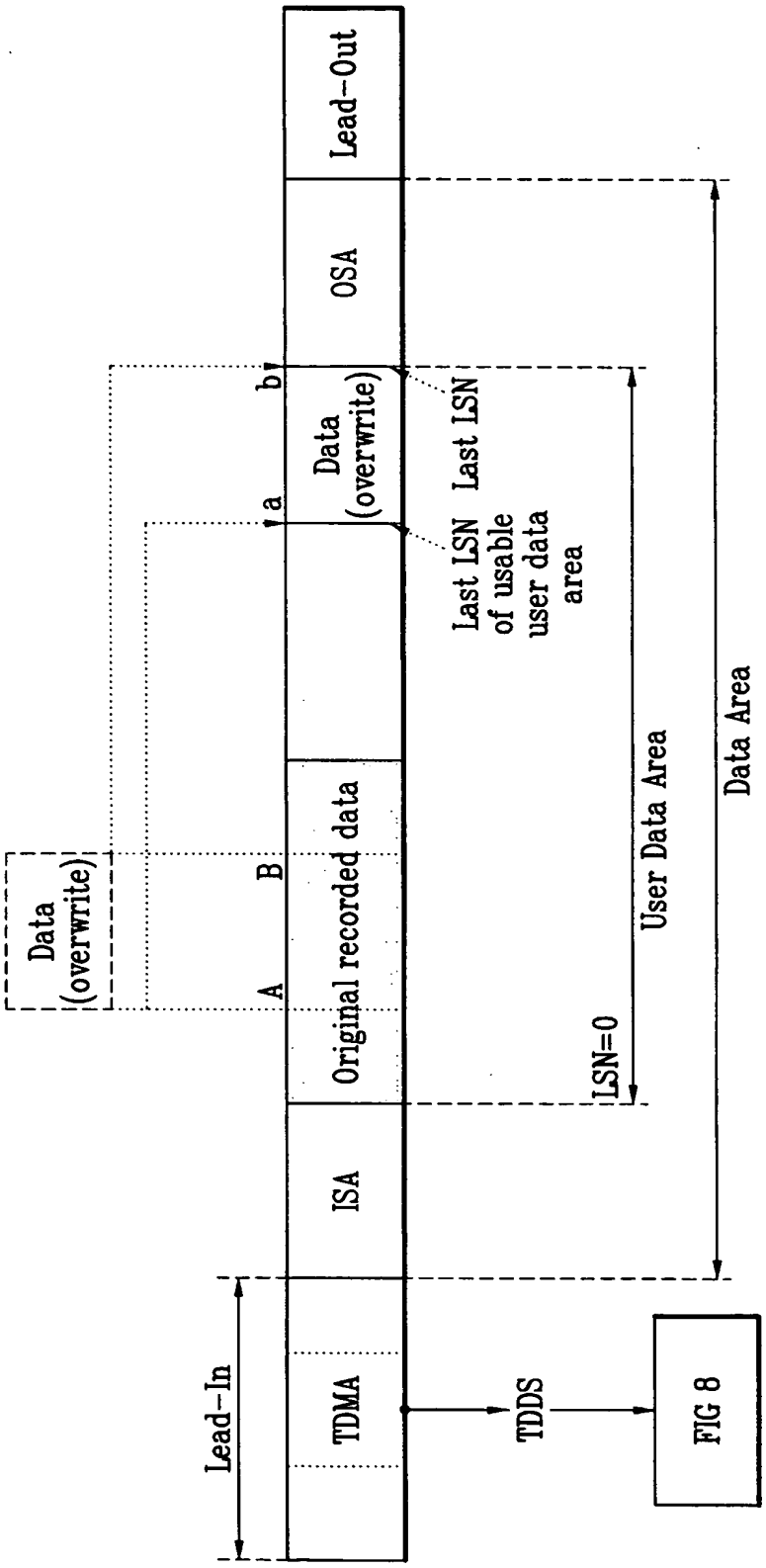

Lead-In
TDMA
ISA
Original recorded data
OSA
Lead-Out
Data (overwrite)
Data (overwrite)
A
B
a
b
LSN=0
Last LSN of usable user data area
Last LSN
User Data Area
Data Area
TDDS
FIG 8

FIG. 7

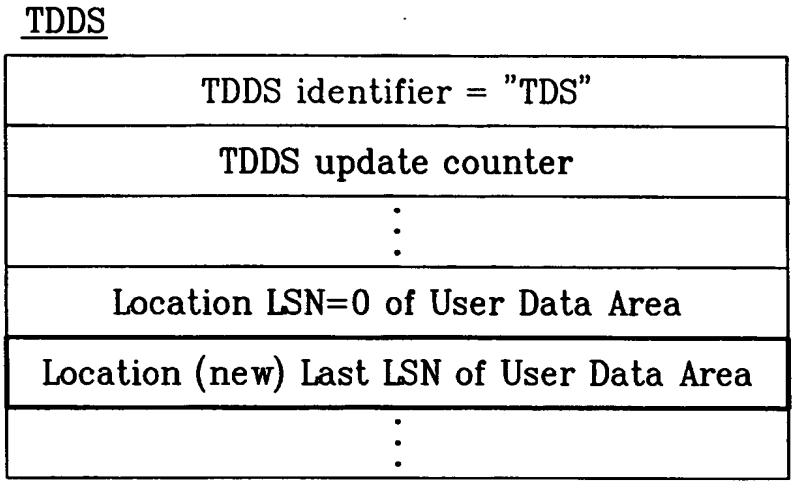

TDDS
TDDS identifier = "TDS"
TDDS update counter
Location LSN=0 of User Data Area
Location (new) Last LSN of User Data Area

FIG. 8

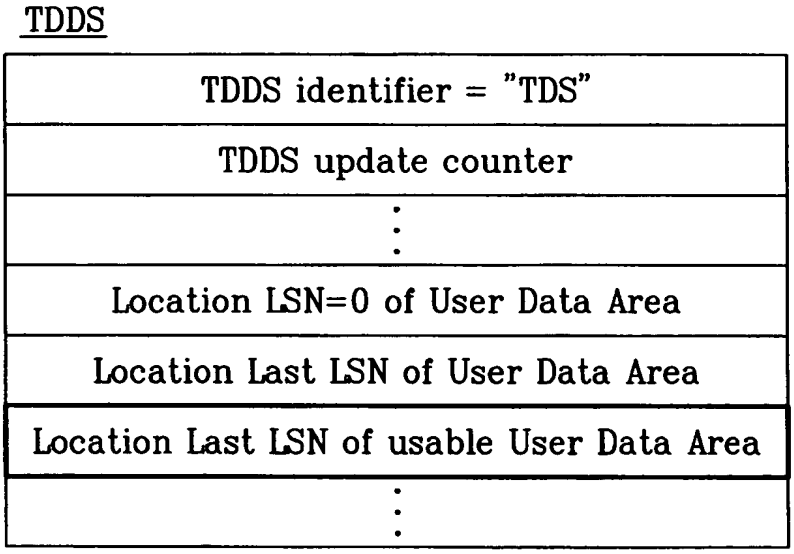

TDDS
TDDS identifier = "TDS"
TDDS update counter
Location LSN=0 of User Data Area
Location Last LSN of User Data Area
Location Last LSN of usable User Data Area

FIG. 9A

Sequential Recording Mode (SRM)

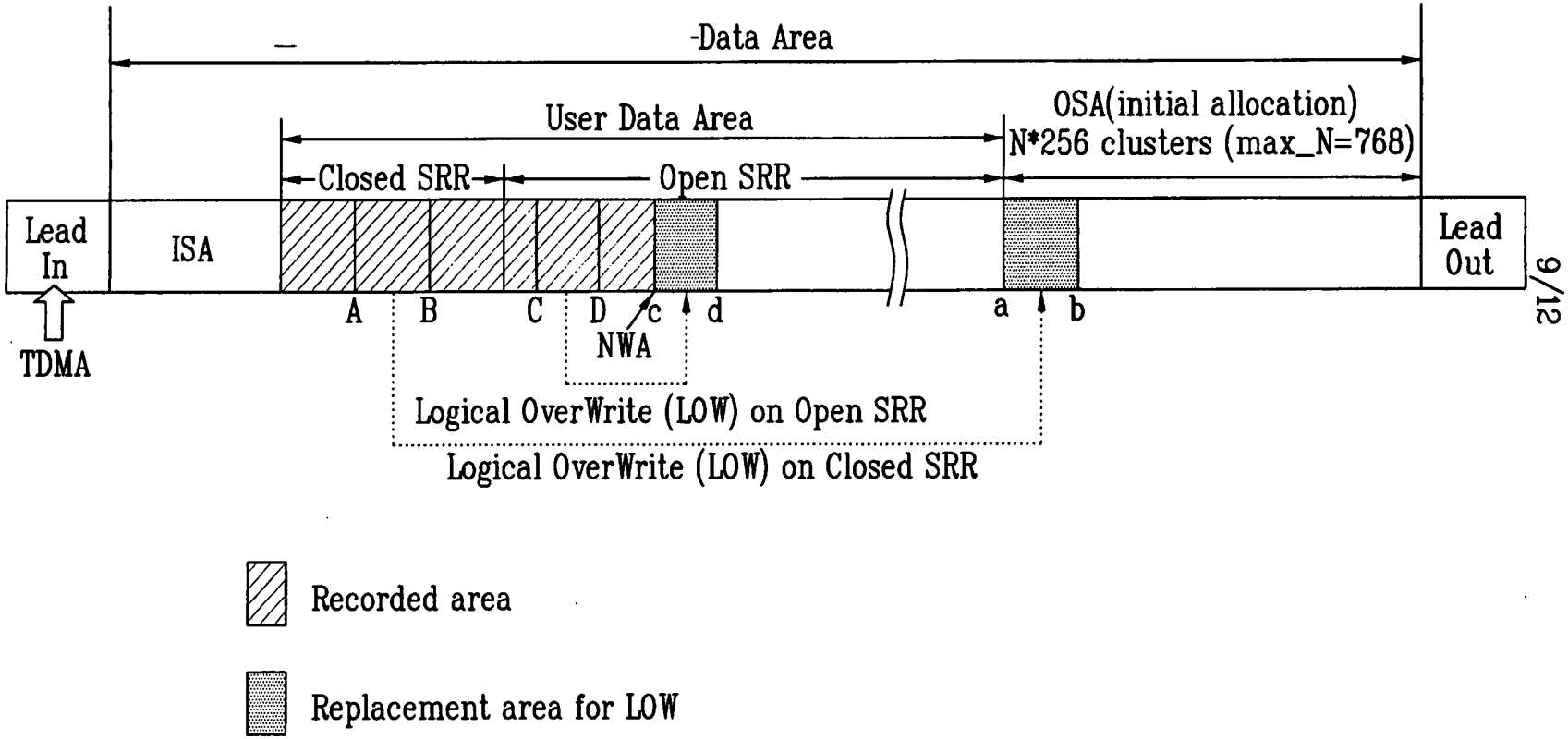


FIG. 9B

Sequential Recording Mode (SRM)

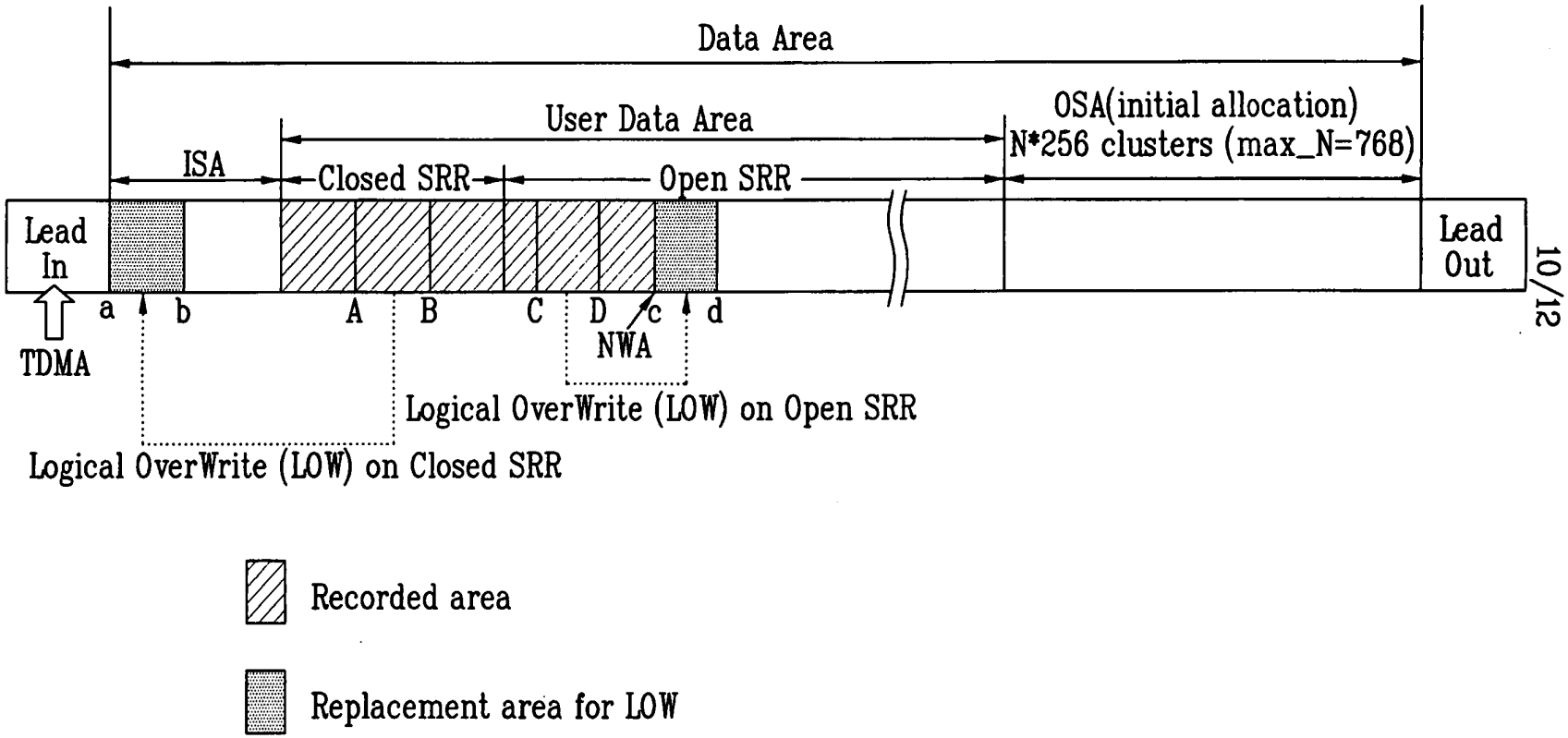


FIG. 10

Random Recording Mode (RRM)

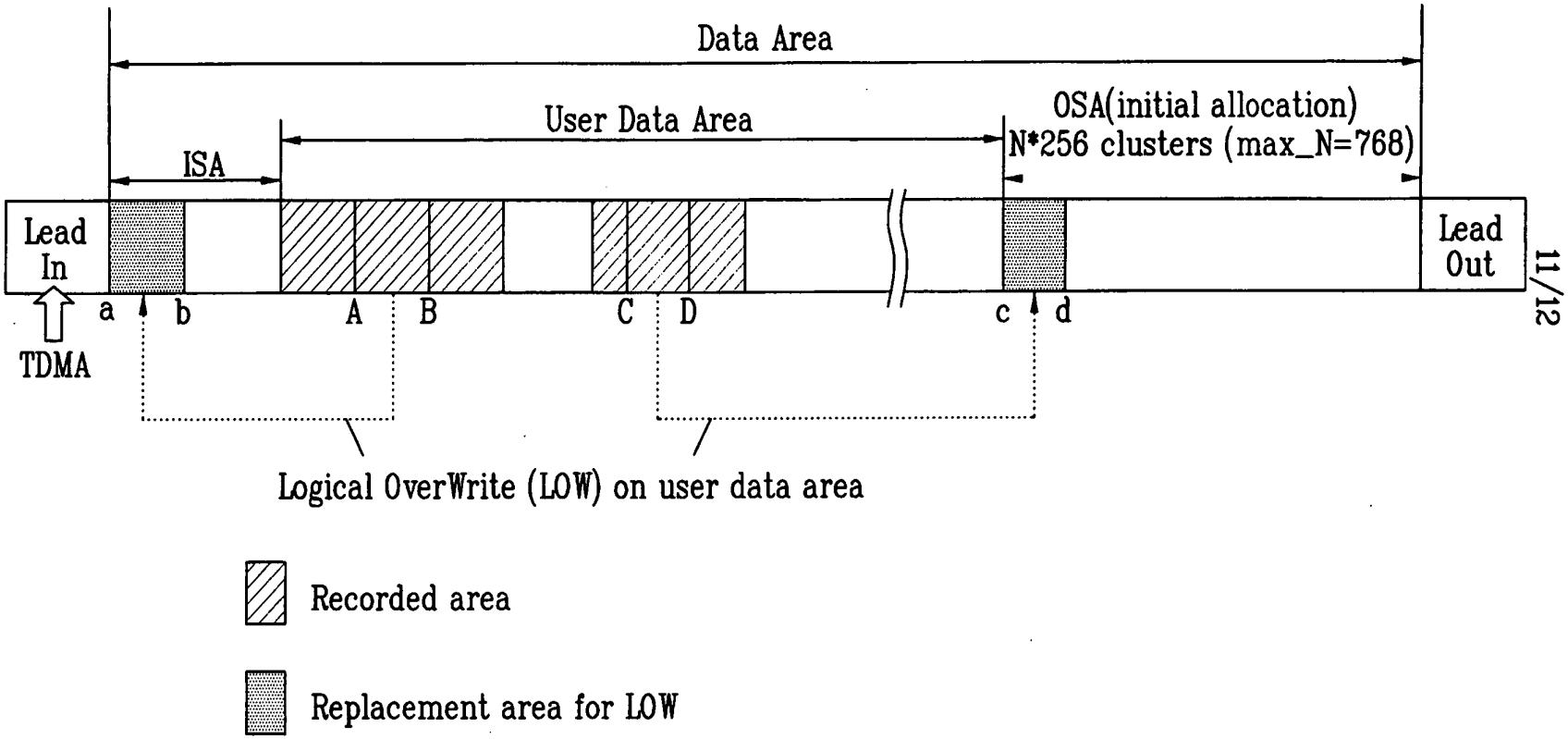
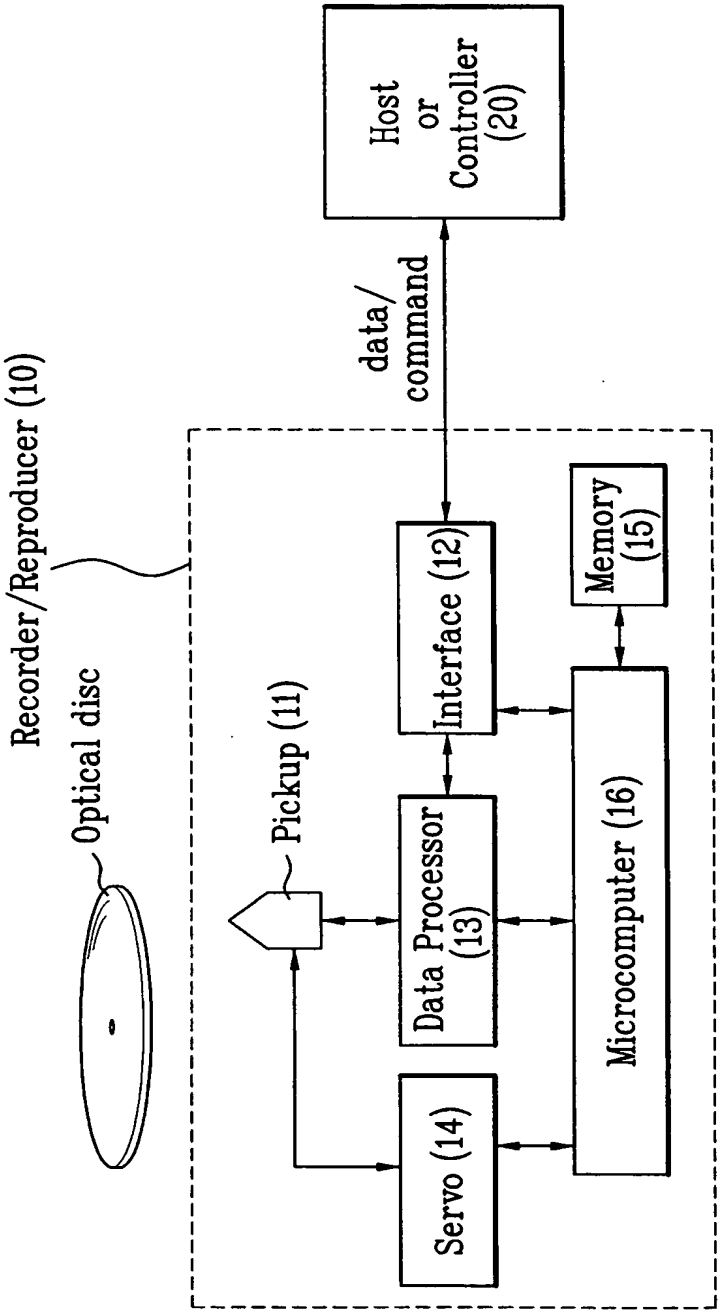


FIG. 11


Host or Controller (20)
data/ command
Recorder/Reproducer (10)
Optical disc
Pickup (11)
Interface (12)
Memory (15)
Data Processor (13)
Microcomputer (16)
Servo (14)